



DEPARTMENT OF THE NAVY  
BUREAU OF MEDICINE AND SURGERY  
2300 E STREET NW  
WASHINGTON DC 20372-5300

Canc frp: Jul 98

IN REPLY REFER TO

BUMEDNOTE 6120

BUMED-21

30 Jul 97

BUMED NOTICE 6120

From: Chief, Bureau of Medicine and Surgery  
To: Ships and Stations Having Medical Department Personnel

Subj: DIVING DUTY

Ref: (a) Manual of the Medical Department (MANMED), Chapter  
15, section IV, article 15-66

Encl: (1) Diving Standards

1. Purpose. To hold the existing diving standards in reference  
(a) in abeyance. Use the new diving standards in enclosure (1).
2. Cancellation Contingency. Canceled upon revision of  
reference (a).
3. Form. NAVMED 6150/2 (Rev. 4-70), Special Duty Medical  
Abstract, S/N 0105-LF-209-5021 is available per CD ROM NAVSUP PUB  
600(NLL).

A handwritten signature in cursive script, reading "Joan M. Engel", is positioned above the typed name.

JOAN M. ENGEL  
Assistant Chief, Operational  
Medicine and Fleet Support

## DIVING STANDARDS

1. Purpose. All personnel, except patients, whose duties may expose them to a hyperbaric environment must conform to the appropriate physical standards in enclosure (1). Such personnel include, but are not limited to, those engaged in hyperbaric chamber duty (clinical, research, and recompression), diving, combat swimming (SEALS), United States Marine Corps (USMC) combat swimmers and candidates for such duty trained at a U.S. Navy facility (including Army OOB (diver) and Army and Air Force special operations), sonar dome work (when in a hyperbaric environment), hull containment testing (compartment workers), and hyperbaric coffers or caisson. Waivers for members unable to meet standards must be prepared per MANMED article 15-74. A waiver package must include the name and telephone number of a point of contact. Compartment workers who are submariners and have a current medical exam filed in their health record will be considered qualified for hull containment testing.

2. Diving Medical Exams (DME) will be performed by one of the following:

a. A medical officer who has successfully completed one of the medical department officer courses given at the Navy Diving and Salvage Training Center (NDSTC) and is designated as an undersea medical officer (UMO), a diving medical officer (DMO), or a hyperbaric medical officer (HMO).

b. A physician assistant or nurse practitioner who has successfully completed one of the medical department officer courses at NDSTC may perform and sign a DME. The medical officer or physician who countersigns this DME does not have to be trained at NDSTC.

c. A medical officer, physician assistant, or nurse practitioner, not trained at NDSTC, with a review by a medical officer trained at NDSTC.

d. A U.S. Army or U.S. Air Force flight surgeon is authorized to perform, review, and sign DMEs for their service members.

3. Additional Standards. Some of the items listed in MANMED, chapter 15, section III, may be duplicated here for emphasis. In addition to the standards listed in section III, the following will be cause for rejection for initial diving duty:

a. General. Any disease or condition that causes chronic or recurrent disability, increases the hazards of isolation, or has the potential of being exacerbated by the hyperbaric environment.

BUMEDNOTE 6120  
30 Jul 97

b. Ear, Nose, and Throat

- (1) Atresia of more than 25 percent of the external auditory canal.
- (2) Any history of middle ear surgery excluding tympanoplasty.
- (3) Chronic eustachian tube dysfunction or inability to equalize middle ear pressure.
- (4) Any history of inner ear surgery.
- (5) Unilateral tinnitus.
- (6) Any history of inner ear pathology, including but not limited to, endolymphatic hydrops or true Meniere's disease.
- (7) Any vertigo, disequilibrium, or imbalance with inner ear origin.
- (8) Hearing as for initial acceptance for active duty.
- (9) Maxillofacial or craniofacial abnormalities precluding the comfortable use of diving headgear including headgear, mouthpiece, or regulator.
- (10) Any laryngeal or tracheal framework surgery.

c. Eyes

- (1) Visual acuity
  - (a) Minimum corrected visual acuity 20/20 in each eye.
  - (b) Minimum uncorrected visual acuity:
    1. Diving medical officers or self-contained undersea breathing apparatus (SCUBA) divers: general Navy standards: +/- 8 diopters.
    2. Basic diving officer, second class diver, Army OOB, or explosive ordinance disposal (EOD) divers: 20/200 or better in each eye.
    3. Marine combat swimmers or Navy Hospital Corpsman (NEC 8403/8427) assigned to diving duty: 20/100 in the better eye and 20/200 in the bad eye.
    4. Navy SEALs or Army or Air Force special operations: 20/40 in the better eye and 20/70 in the bad eye.

(2) Deficient color vision by Farnsworth Lantern Test.

(3) Deficient night vision (known nyctalopia, pigmentary retinopathy, or congenital stationary night blindness by history).

(4) Radial keratotomy, and other forms of corneal surgery with the exception of excimer laser photorefractive keratectomy (PRK). Candidates for entry into diving programs, including special operations, must wait 6 months following their most recent PRK before their qualifying physical exam.

(5) Orthokeratology for 6 months after cessation of hard contact lens wear.

(6) Presence of a hollow orbital implant.

(7) Any acute or chronic recurrent ocular disorder which may interfere with or be aggravated by diving duty.

d. Pulmonary

(1) Spontaneous pneumothorax.

(2) Traumatic pneumothorax will be disqualifying for a period of at least 6 months. A candidate or diver may be requalified for diving duty if he or she has:

(a) Normal chest x-ray.

(b) Normal spirometry.

(c) Normal ventilation and perfusion scan.

(d) Favorable recommendation from a pulmonologist.

(e) Evaluation by a UMO, DMO, or HMO.

(3) Chronic obstructive or restrictive pulmonary disease.

(4) Sarcoidosis or history of sarcoidosis.

(5) Active tuberculosis. Those candidates undergoing drug therapy for a positive purified protein derivative (PPD) must complete their course of therapy before diver training.

(6) Recurrent pulmonary barotrauma (more than 2 episodes).

(7) Any chronic or recurring pulmonary condition which limits exercise capability or pulmonary function including, but

BUMEDNOTE 6120  
30 Jul 97

not limited to pulmonary fibrosis, fibrous pleuritis, lobectomy, neoplasia, or infectious disease process including coccidiomycosis (exceptions for scattered nodular parenchymal and hilar calcification).

(8) Reactive airway disease or asthma after age 12.

e. Cardiovascular

(1) As covered in general duty standards.

(2) Asymptomatic Wolff-Parkinson-White (WPW) is not disqualifying.

(3) WPW or Paroxysmal Supraventricular Tachycardia (PSVT) 6 months after ablation is not disqualifying.

f. Skin

(1) Severe chronic or recurrent skin conditions exacerbated by sun exposure.

(2) Chronic or recurrent skin conditions exacerbated by diving, the hyperbaric environment or the wearing of occlusive attire (e.g., a wetsuit), including but not limited to eczema, psoriasis, acne vulgaris, and atopic dermatitis.

g. Gastrointestinal. History of chronic or recurrent gastrointestinal conditions which may interfere with or be aggravated by diving duty.

h. Genitourinary. Chronic or recurrent genitourinary conditions which may interfere with or be aggravated by diving duty.

i. Blood. As for initial acceptance for candidates. (See MANMED Chapter 15, section III.)

j. Endocrine. As for initial acceptance for candidates. (See MANMED Chapter 15, section III.)

k. Dental

(1) Any defect of the oral cavity or associated structures which interfere with the effective use of an underwater breathing apparatus.

(2) All diver candidates must be DoD dental class 1 or 2 before diver training.

1. Musculoskeletal

(1) Any musculoskeletal condition that is chronic or recurrent which predisposes to diving injury, limits the performance of diving duties, or may confuse the diagnosis of a diving injury.

(2) History, documentation, or x-ray findings of osteonecrosis, particularly dysbaric osteonecrosis.

(3) Any fracture (including stress fractures)

(a) Within 3 months of injury.

(b) With any residual symptoms.

(4) Bone or joint surgery

(a) Within 6 months.

(b) With any significant or functional residual symptoms.

m. Psychiatric

(1) Any history or presence of a psychiatric diagnosis that has the potential to hinder diver performance, judgment, reliability, or the mission of the unit or command.

(2) Any psychotic disorder, except resolved episodes attributed to fever, infection, toxins, or trauma.

(3) Any depressive or anxiety disorder that required hospitalization, work loss, suicidal gesture or attempt, or use of medication within the past year.

(4) Diagnosis of alcohol dependency will result in disqualification until successful completion of a treatment program and a 1-year aftercare program.

n. Neurological

(1) Headaches or face pain, if frequently recurrent, disabling, requiring prescription medication, or associated with transient neurological deficits. A single event or prolonged interval (e.g., years) between spells may be considered.

(2) Penetrating head injury.

BUMEDNOTE 6120  
30 Jul 97

(3) A closed head injury (CHI) is permanently disqualifying if:

- (a) Cerebral spinal fluid (CSF) leak >7 days.
- (b) Intracranial bleeding.
- (c) Depressed skull fracture with dural laceration.
- (d) Loss of consciousness (LOC).

1. MILD. +/- post-traumatic amnesia (PTA) <60 minutes is disqualifying for 1 month with normal brain (MRI) and normal neurologic exam performed by a neurologist or neurosurgeon or more than 2 years have elapsed since injury and full recovery documented by a neurologist or neurosurgeon (i.e., brain imaging not required).

2. MODERATE. +/- PTA >60 minutes. +/- PTA <24 hours is permanently disqualifying for candidates, but designated divers may be reinstated after 2 years with normal MRI, neurologic, and neuropsychological evaluations.

3. SEVERE. +/- PTA >24 hr is permanently disqualifying for candidates, but designated divers may be considered for a waiver after 3 years if MRI, neurologic, and neuropsychologic findings are normal.

Note: EEG evaluation is not required for CHI workup.

(4) Seizures, all are disqualifying, except febrile convulsions before age 5 years, seizure clearly associated with toxic etiology, oxygen toxicity, or occurring immediately associated with head trauma.

(5) Syncope, if recurrent or unexplained.

(6) Vertigo, if recurrent is permanently disqualifying; single episode of vestibular neuronitis is not disqualifying once the member has recovered from the acute episode.

(7) Multiple sclerosis is permanently disqualifying.

(8) Decompression sickness or air gas embolism with residual neurologic impairment is permanently disqualifying. Designated divers with full recovery from decompression sickness or air gas embolism may be reinstated at the discretion of the HMO, DMO, UMO without a waiver.

(9) Cerebral vascular disease including, but not limited to transient ischemic attack, reversible ischemic neurological deficit, cerebral vascular attack, arterial venous malformation, is permanently disqualifying.

(10) Heat stroke with residual neurologic deficits is permanently disqualifying.

(11) Stammering or stuttering is disqualifying if it impairs normal communication required of a military diver.

(12) Symptomatic intervertebral disc disease, if persistent pain, limited range of motion, neurologic deficit, or medication requirement.

(13) Spine surgery, disqualifying for 6 months.

(14) Neurosurgery for brain or spinal tumors is permanently disqualifying.

o. Miscellaneous

(1) History of decompression sickness for candidates.

(2) History of severe or incapacitating motion sickness.

(3) History of cold injury with residuals of frostbite, chilblain, immersion foot or trench foot such as paresthesia, deep-seated ache, or easily traumatized skin.

p. Height, Weight, and Body Build. As for initial acceptance for candidates, follow MANMED, Physical Standards, section III.

q. Age. There are no waivers required for continuation of diving duty.

4. Medical Fitness Standards for Retention. Retention of a diver in diving duty will be based on:

a. The diver's demonstrated ability to satisfactorily perform diving duty.

b. The effect of continued diving duty upon the member's health and well being.



BUMEDNOTE 6120  
30 Jul 97

5. Additional Standards for Candidates. In addition to previous standards for diving duty, initial applicants must meet the following standards.

a. Pressure Testing and Ascent Training

(1) All candidates must pass a one-time recompression chamber test, to a pressure of 27 pounds per square inch gauge (PSIG) (60 feet of sea water), to determine their ability to withstand the effects of pressure. Results of this test must be documented on the NAVMED 6150/2 (Special Duty Medical Abstract). This test must not be performed in the presence of a respiratory infection that may temporarily impair the ability to equalize or ventilate. If pressure testing is not available, a waiver must be granted by the Chief of Naval Personnel before transferring the individual to diver training. Sonar dome workers must pass pressure testing.

(2) In all cases of ascent testing, training, evaluation, an NDSTC trained medical officer must be present at the test site. This does not apply to ascent training or lock in or lock out training where all participating personnel are fully qualified for the procedure.

b. Age. Navy applicants who have attained their 35th birthday (28th birthday in the case of Navy combat swimmers) will not be considered for initial diver training without a waiver. Other military services may establish their own age standards for initial diver training. There is no age requirement for non-water entry, hyperbaric environment workers.

6. Additional Standards for Saturation Diving Duty

a. General

(1) Saturation diving involves prolonged exposure to the hyperbaric environment, isolated from direct medical care. Therefore, conditions which may be untreatable or exacerbated during a saturation dive are disqualifying.

(2) A saturation diving medical exam must be done by a DMO or UMO. Initial saturation diving physicals must be completed within 6 months of commencement of training.

b. Standards. Saturation diving physicals must comply with all standards for entry and continuation in diving duty, as well as the following disqualifying items:

(1) General. Any disease or condition which predictably will occur and be difficult or exacerbated by a continuous hyperbaric environment.

(2) Ears. Any history of permanent hearing loss secondary to decompression sickness or arterial gas embolism. Any permanent loss, secondary to those causes, even if hearing thresholds do not exceed standards specific for general duty, must be considered disqualifying.

c. Genitourinary

(1) History of urinary tract calculus.

(2) Inflammatory pelvic disease.

7. Additional Standards for Hyperbaric Exposure Nondiving

a. General. Individuals who will be exposed to a dry hyperbaric environment in a nondiving capacity (sonar dome, hull pressurization, recompression chamber) will have a diving medical exam identified as a hyperbaric exposure exam.

b. Standards. The standards for diving duty apply with the exception there is no age limit, and vision must meet general duty standards found in chapter 15, section III, article 15-40.

8. Special Studies. In addition to the special studies required in MANMED chapter 15, section I, article 15-9, the studies listed below will be completed and final results or interpretations will be noted in corresponding blocks of the SF 88.

a. Chest x-ray (posterior, anterior, and lateral views required) on initial DME and then when clinically indicated by the examiner.

b. An electrocardiogram (EKG) on initial DME.

c. Visual acuity including refraction.

d. Farnsworth's lantern color vision exam. (On an initial exam only.)

e. Complete blood count (CBC) with differential.

f. PPD.

g. All DMEs for divers closest to age 45, and all subsequent exams, a modified cardiac workup will be completed to include: lipid profile, EKG, and the following questions which will be documented in block 25 of the SF 93.

(1) Family history of sudden death.

(2) History of tobacco use.

BUMEDNOTE 6120  
30 Jul 97

(a) If clinically indicated considering cardiac risk factors, a cardiac exercise stress test must be included.

h. Saturation divers will have a dysbaric osteonecrosis survey (DOS) on termination from the saturation diving program and when clinically indicated, as determined by a UMO, DMO, HMO. Forward DOS films with a copy of the formal radiologist interpretation to the Commander, Submarine Development Group One, attention: Medical DET Bangor, 7111 Sealion Road, Naval Submarine Base, Bangor Silverdale, WA 98315-0067.

i. Divers who use underwater devices that exceed the noise level established in OPNAVINST 5100.23D will receive an audiogram annually.

9. Action. All Navy divers will comply with the standards in MANMED chapter 15, section I, article 15-11.